EICES Research, Inc.

February 1, 2012

Comments of EICES Research Inc. Responsive to the Commission's Public Notice DA 12-103, Released on January 27, 2012, on the LightSquared Petition for Declaratory Ruling

IB Docket No. 11-109
ET Docket No. 10-142

EICES Research, Inc. is pleased to provide the following comments responsive to the Commission's Public Notice on LightSquared's petition for declaratory ruling. As an initial matter, assuming that the GPS Industry Council and the GPS community at large employee competent engineers, and given that the intentions of LightSquared, via its predecessor, MSV, were made clear as far back as 2003, when the Commission first authorized MSV to deploy ATC, the key question that must be asked is: Why haven't the last eight (8) years been used advantageously towards equipping GPS receivers with appropriate front-end filters to enable a harmonious co-existence with LightSquared's planned ATC network???

It can be argued (based upon evidence of filings) that the GPS Industry Council and the GPS community at large (and perhaps even the Commission) missed the issue of overload and were simply content to settle for strict limits on Out-Of-Band Emissions ("OOBEs") that were negotiated between MSV and the GPS Industry Council. Having finally recognized, however, by the GPS Industry Council and the GPS community at large that there are two issues (not one); namely, overload and OOBEs and, having had the party that could provide the solution to the OOBEs issue (i.e., MSV) responsively and responsibly do so, is it not time for the party that can provide the solution to the overload issue to step up to its responsibility???

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Providing the solution to the overload issue by appropriate front-end engineering of GPS receivers has a two-fold benefit: it not only allows LightSquared to move forward with its planned 4G LTE network, but also **protects** GPS. If as claimed, government/military/FAA GPS units are vulnerable to LightSquared's signals then, respectfully, we have a big problem in that navigation of troops, munitions and civilians stand vulnerable to adversarial/malicious signals that may be launched proximate to GPS frequencies. If as implied by the recent claims of GPS overload interference, a terrorist can take a commercial jet liner off-course by radiating strong signals proximate to GPS frequencies, then the American public is facing a big problem. It is difficult to imagine that government/military/FAA GPS receivers are currently in use and are subject to such overload vulnerabilities. If they are, surely they need to be fixed; national security, home land security and public safety demand it. Accordingly, it does not appear that LightSquared is the problem here. Indeed, LightSquared appears to be only the catalyst that has served to identify the real problem facing GPS receivers - - an inappropriate front-end design that allows GPS to "view" not only its own allocated frequencies but also frequencies intended for communications/signals unrelated to GPS.

The ATC initiative began in 2000 with a clear vision of providing wireless communications to urban and suburban areas via satellite frequencies that would otherwise lay fallow in such areas. Much innovation has been put forward by MSV, SkyTerra, and now LightSquared, in refining this vision and making it implementable. In the process, LightSquared has mustered over 100 patents relating to its ATC and satellite concepts and has invested over 3 billion dollars towards the deployment of its network. Considering the many years since the onset of the ATC debate and the myriad of challenging issues that have been resolved since then, it appears illogical that the absence of a front-end filter from some GPS receivers can be allowed to stifle the ATC technological innovation that has been in the making for over a decade.

Recognizing, however, the gravity of both sides in this matter, i.e., the desire of the GPS community to continue to operate legacy GPS units interference-free, as well as the desire of LightSquared to proceed with its technological innovation, **EICES Research, Inc. respectfully urges the Commission to provide certainty to LightSquared while providing an additional grace period to the GPS community to take appropriate steps in correcting the problem.**

The Commission may require, for example, that by March 1, 2015, all GPS receivers are expected/required to include an appropriate front-end design and be capable of co-existing with LightSquared's 4G LTE network. Further, prior to March 1, 2015, the Commission may authorize LightSquared to commence limited operations using frequencies that are greater than 1626.5 MHz (and thus do not present overload interference to GPS) and a 2.5 MHz segment of the lower L-band that is maximally distant from GPS (e.g., 1526-1528.5 MHz).

Such a ruling by the Commission would provide the necessary certainty needed by private investors (i.e., LightSquared) and would also protect GPS until it is capable of protecting itself via appropriate front-end engineering of its receivers. It's a compromise that only the Commission can broker for the benefit of all. It should be underscored that some GPS receivers have already incorporated appropriate front-end filters into their design and, in fact, have been doing so for many years. For example, attempts to overload certain Garmin GPS receivers have proven futile because Garmin appears to understand sound engineering practices of protecting the receiver via an appropriate front-end filter. It appears logical that an issue that is fixable via a filter cannot be allowed to block technological advancement, such as ATC, that promises to benefit the economy, provide wireless competition and state-of-the-art wireless infrastructure nationally, and relieve congestion and data bottlenecks across the country.

Accordingly, EICES Research, Inc. respectfully urges the Commission to rule in this matter by requiring that, by the end of a specific time period of reasonable duration (e.g., by March 1, 2015) the GPS community is expected/obligated to restrict its "viewing" only over the GPS frequency band(s), thus allowing LightSquared to use all of its frequencies via its 4G LTE ATC network in order to offer advanced broadband communications services to all Americans.

Respectfully submitted,

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